

ABSTRACT

The invention features a method including: i) confining ions to stable trajectories within an ion trap; ii) exciting a subset of the ions along at least one transverse coordinate; iii) rotating the transverse excitation into an excitation along an axial coordinate; and iv) transferring at least some of the axially excited ions from the ion trap along the axial coordinate. For example, the ions may be transferred to an ion detector or to a subsequent ion trap.

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